PB81-118721

Community Environmental Education
Three Models of Organization for PSD Set II

Appalachian State Univ.
Boone, NC

Prepared for

Environmental Protection Agency
Research Triangle Park, NC

Jun 80

U.S. Department of Commerce
National Technical Information Service
NTIS.

PB81-118721

United States
Environmental Protection
Agency

Office of Air Quality
Planning and Standards
Research Triangle Park NC 27711

EPA-450/2-80-079
June 1980

Air

EPA

Community Environmental Education: Three Models of Organization for PSD Set II

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA 22161

TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

1. REPORT NO.	2.	3. RECIPIENT'S ACCESSION NO.
EPA 450/2-80-079		PB81 118721

4. TITLE AND SUBTITLE	5. REPORT DATE
Community Environmental Education: Three Models of Organization for PSD Set II	June 1980
	6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S)	8. PERFORMING ORGANIZATION REPORT NO.
Peter Burke	
9. PERFORMING ORGANIZATION NAME AND ADDRESS	10. PROGRAM ELEMENT NO.
Center for Community Education Appalachian State University Duncan Hall Boone, North Carolina 28608	11. CONTRACT/GRANT NO. 02834 NAEX
12. SPONSORING AGENCY NAME AND ADDRESS	13. TYPE OF REPORT AND PERIOD COVERED
US EPA Office of Air Quality Planning & Standards Research Triangle Park, NC 27711	Final
	14. SPONSORING AGENCY CODE EPA - AQP

15. SUPPLEMENTARY NOTES

16. ABSTRACT

This study undertakes an examination of models of community environmental education relevant for PSD Set II. Issues of sufficient technical information, aspects of citizen participation, organizational theory, and politics are examined. Community environmental education is deemed to be feasible here, and three potential organizational models are presented: one focuses on the Cooperative Extension Service, one on regional planning bodies, and one on the community school network.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS (This Report)	21. NO. OF PAGES
Release to Public	Unclassified	
	20. SECURITY CLASS (This page)	22. PRICE
	Unclassified	

EPA Form 2220-1 (Rev. 4-77) PREVIOUS EDITION IS OBSOLETE

COMMUNITY ENVIRONMENTAL EDUCATION

Three Models of Organization for PSD Set II

by
Peter Burke

Project Officer: Nancy Mayer
Contract #D2834NAEX

Center for Community Education
Appalachian State University
Duncan Hall
Boone, NC 28608

Prepared for EPA
in cooperation with

Office of Air Quality Planning and Standards
Policy Development Section
Research Triangle Park, NC 27711

June 1980

This report has been reviewed by (originator), EPA, and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Environmental Protection Agency, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

PREFACE

This report could not have been prepared without a significant amount of assistance. First, Heath Rada, Director of the Center for Community Education, provided both practical advice and constant support. Cerise Wynne contributed valuable time and energy in basic literature research, helping with the basic framework for this report. Also, the staff of the Durham, North Carolina, Community Education Program helped greatly with community education materials and with solid discussion on structuring community environmental education. In addition, staff and professionals at North Carolina State University, the Environmental Protection Agency, and the Cooperative Extension Service gave much time to help the author of this report refine the ideas presented. Finally, Judy Spivey lent her energy for completeness and order in the typing of this Final Report.

Table of Contents

		Page
I.	Introduction	1
II.	Summary of the Findings	3
III.	Conclusions	6
IV.	Recommendations	8
V.	Findings of the Study	9
	A. Working definitions	9
	B. Major issues	9
	C. Case studies	18
	D. Candidate organizations and relevant actors	32
	E. Major issues and organizational models: Discussion	45
	F. Work plan for training	48
VI.	Bibliography	50

I. INTRODUCTION

The purpose of this study is to develop potential models of community environmental education and citizen participation in decision-making about air quality standards within the framework of the PSD Set II program in the Environmental Protection Agency (EPA). Prior experience with air quality standards and their enforcement has shown that there is room for, and value in, citizen participation in the total process of protecting the quality of the air in this country.

The rationale underlying this approach is that value is seen in the attempt to broaden the base of decisions in regard to air quality and to bring a measure of decentralization into the process. Such decisions can often be interpreted as unwarranted intrusions by "Big Brother" into the economic vitality of a given area, intrusions which can be regarded as detrimental to the livelihood of Americans. By considering realistic models of citizen participation (supported by long-term environmental education about PSD Set II pollutants and their effects), EPA can potentially lessen that "Big Brother" image and, more importantly, bring more of a feeling of consensus in this country about air quality standards and increment levels.

The study has been conducted in a variety of ways. Research has been done into EPA procedures, policies, and educational information, into methods of community education through community schools, the Agricultural Extension Service, and other programs, into methods of environmental education, and into methods of citizen participation (SEE Section V.E., below). Discussions have been held with practitioners in the aforementioned fields, in EPA, the Extension Service, at North Carolina State University, in the

League of Women Voters at the national and local levels, and in the National Association of Counties. In addition, study staff have discussed the various options within the framework of the study in detail.

II. SUMMARY OF THE FINDINGS

This study has verified the need to investigate ways to increase and improve citizen participation in environmental matters (and to improve the supporting educational system for that participation). The wisdom of the government is doubted at the local level; air quality decisions are not always understood and, therefore, are not always appreciated as valuable.

A wide range of issues has been uncovered in this study, and they have been broken down into four main categories: technical, citizen participation, organizational, and "political." These are the issues found to be vital in this study:

Technical

---how much of a problem is there with the pollutants of concern here?
---is the necessary technical information available?
---can PSD Set II be linked with PSD Set I or any other EPA-based program?
---how will the findings of "acute" vs. "chronic" health hazards affect the educational and participatory process?

Citizen Participation

---do people want to get involved?
---is such citizen participation necessary?
---can informed, effective citizen participation be achieved?
---is the degree and nature of citizen participation greatly determined by a perception of seriousness and immediacy?
---what degree of community consensus is possible on environmental matters, especially those which conflict with economic interests?
---can alternative decision-making processes and structures be developed in the context of PSD Set II, in comparison with potentially less functional existing processes and structures?
---what differences are there in short-term, "crisis"-participation and more long-term effort-participation?

---what repertoire of citizen participation techniques is there?
---how adaptable is the citizen participation/ community education process beyond PSD Set II?

Organizational

---what are the leverage points in the existing system?
---what organizational pattern will best bring together expertise in community education, environmental education, technical issues, and decision-making methods, as well as appropriate geographical coverage?
---how can the organizational pattern fit the assumed complicated geographical dimensions of air pollution problems?
---what are the optimal structure and processes of Federal, state, and local linkages, to bring a balance of interests and a successful program?
---how can this program get the most efficient and effective use of its funds?

"Politics"

---what compromises, if any, need to be made between economic development and air pollution hazards?
---how can PSD Set II pollution standards be both fairly and flexibly applied?
---how much power can be delegated to non-governmental and (traditionally) non-accountable groups?
---what is the nature and degree of citizen participation that EPA wants?

It has been found in this study that the combination of citizen participation and community environmental education is possible to achieve, given that there is a sustainable environmental issue at stake and that there is consistent and ethical management of the structures and processes necessary to have consensus-based participation in decision-making. Three models of citizen participation and community environmental education have been proposed. The first would focus on the Agricultural Extension Service as the organization of delivery; the second would focus on a combination of

regional planning bodies and the League of Women Voters; and the third would focus on the National Center for Community Education and the network of community school/education programs in the public school system (with possible aid from an environmental education organization of EPA's choosing). Further, it is recommended that EPA consider testing one or more of those models before launching a full-scale program.

III. CONCLUSIONS

The main conclusion of this study is that it is indeed possible to undertake a citizen participation and community environmental education program within the framework of PSD Set II. Once the technical information is available and reveals significant environmental hazards and chronic health problems from PSD Set II pollutants, production of relevant educational materials should be no more difficult than for other EPA programs. In addition, the organizational structures and participatory techniques necessary for this particular approach do exist in quantities requisite for success. On the other hand, there is no ideal structure and no ideal set of processes. Geographical problem patterns can be confusing, commitment to citizen participation may be weak, and existing resources may not necessarily be in tune completely with EPA's philosophy and practices.

There are contingencies upon which the primary, positive conclusion of this study is based. EPA must be willing to provide consistent, restrained management of citizen participation structures and processes and must aim at consensus wherever possible in the mechanisms it engineers through the model it ultimately chooses to utilize. In regard to the latter, among the models proposed in this study, that focusing on the Extension Service is deemed to be the most useful. However, EPA must also realize that a healthy amount of time and money will be required to implement both community environment education programs and citizen participation programs that will lead to appropriate decisions in regard to PSD Set II increment levels. That long-term approach implies cummulative development of both participatory bodies and community-based educational strategies and information.

In addition to the latter decisions, there are other benefits which could accrue from the program suggested in this study. In the long run, genuine efforts at citizen participation can bring a greater understanding of EPA programs and, therefore, greater support. Also, in the process of applying citizen participation and community-based education to PSD Set II, EPA may find that this approach is worthwhile for other of its programs.

IV. RECOMMENDATIONS

With the conclusion that the citizen participation and community environmental education approach is worth considering seriously (plus the proposal of three alternative models), the recommendations from this study are relatively simple. The next task seems to be to test one or more of the models as a pilot project, to test both the approach and the choice of organization(s) and to provide a better estimate of the cost of such an approach nationwide (since the latter is beyond the scope of the present study).

The second main recommendation from this study is that further research should be conducted along the lines of what-works-best-when. This study only scratched the surface of the work that is being done in citizen participation in this country (and overseas, for that matter) and of the materials being produced in that area. There is a voluminous amount of material out of which it can be determined to a great degree what techniques fit what situations. However, it appears that very work has not yet been done. To uncover the entire range of possibilities in citizen participation and to produce a wide-ranging "how-to" would be quite productive.

The final recommendation is that serious consideration be given to a "community-based" strategy of environmental education, by which a community's "felt needs" about air quality (or other environmental problems) --perhaps beyond PSD Set II--be addressed first. The long-term educational process would ultimately lead to PSD Set II concerns and issues. That strategy could, obviously, be a focus of further research.

V. FINDINGS OF THE STUDY

A. Working Definitions

The only element sought to be defined in this study was "community environmental education" as a framework for the models of citizen participation in PSD Set II investigated herein. This definition has been refined out of interaction with community educators, environmental educators, and administrators of environmental and agricultural programs, and out of the thinking and experience of the study staff.

> Definition: Community environmental education is an educational process within which formal and informal educational programming on environmental matters is developed (a) based upon community concerns; (b) determined by community-wide participation; (c) set in existing community organizations and structures; and (d) ideally impacting upon community decision-making about the environment.

Within this definition, the "community" can be defined as the "community of interest," which can be as small as a rural locality identified by its residents as their community or as large as an entire state. Decisions about which communities focus upon would come as a result of the interaction of EPA and the states with which the Agency chooses to work, depending upon identification of areas of concern in regard to PSD Set II pollutants. Therefore, community environmental education as defined is a flexible process which can be applied contingent to the geographical area of interest and to the magnitude of the air pollution level.

B. Major Issues

As with any potential program which involves a tangle of complex economic, environmental, and community concerns and which requires a structure going from the Federal level down to the local level, there are a wide range of issues here. Those issues have been subdivided in this study into four

areas: technical issues, citizen participation issues, organizational issues, and political issues. The last set of issues is seen to be "political" in the loose sense of overall centers and structures of decision-making on public matters.

The primary technical issue for any participatory educational and decision-making program revolving around PSD Set II pollutants is identification of the nature and extent of health problems attributable to those pollutants. At the time of the writing of this report, concrete details of scientific research about those pollutants had not been received. However, the assumption is made here that those pollutants cause health and environmental problems sufficient to arouse public interest to a level that would at least make educational programs in this area viable. If the health problems are chronic (rather than acute)--and therefore, less likely to engender public interest--and if the environmental problems are concommitantly not perceived to be equally acute, then the implication is that the PSD Set II education/participation will have to be long-term and low-key.

The issue subsequent to the availability of technical information is whether it can be translated both to capture the complexity of the data and issues involved and to be simple enough for public consumption and understanding. From exposure to a variety of different pieces of educational materials pertaining to both air and water quality, it is relatively easy for the study staff to conclude that, once the technical and scientific information has been produced by EPA in relation to PSD Set II, production of educational information in that area would not be any more difficult

than prior efforts in other environmental areas. The key to the effectiveness of that information would hinge upon how clear the relationship was between the air pollutants of concern and actual health and environmental hazards.

The final technical issue is how much linkage there is between PSD Set II and PSD Set I (or any other EPA-based environmental programs). From the non-technical perspective of a Center for Community Education (which may well mirror the general layman's point of view), it would appear that public concerns about PSD Set I pollutants like sulfur dioxides have already created a certain consciousness about that set of pollutants which could be utilized as a springboard for the Set II pollutants. That linking of Sets I and II could become easier especially if coal becomes used more frequently as a source of power and the economic and environmental trade-offs involved therein become more of a public issue for decision-making.

Also, there has been much work done in the last decade on public participation in water quality planning (through EPA programs). That work has explored similar structures to those investigated in this study and is utilizing all or parts of the models proposed here (SEE Section D, below). So, in addition to the public consciousness about air pollution, there are organizational frameworks which have already managed public participation in decision-making and which have a linkage with EPA and its environmental concerns.

The primary issue with any consideration of citizen participation is whether it is necessary. There appears to be a considerable argument in its favor, at least theoretically, since the practical issues are still in

the process of being worked out in a variety of public programs and settings. The most important argument in favor of citizen participation in public decision-making (and educational programming) is that it serves as a mechanism for citizens to assume some control over their lives, and the life of their community, in an age of complexity in which important decisions appear to occur at ever more remote, higher, administrative levels. As government and non-government organizations tend toward complexity of both range and depth, the sources of decisions tend to move away from the relatively accessible areas of elected officials and more local decision-makers. The movement for citizen participation, growing out of democratic tradition, provides a counterbalance to the remoteness of most decisions by providing both a structure and a process that allows citizens to, at the very least, voice their views on potential decisions. Also, if properly handled (so that the decision is truly representative of community feelings), citizen participation can lead to programs strengthened by the consensus of opinion generated in that process. If agreement is reached via citizen participation mechanisms, it can lead to wider acceptance and support of, for example, air pollution regulations, and, therefore, less resistance to such things.

The next issue is whether informed, effective citizen participation can be achieved in the context of PSD Set II. As can be seen in the survey of case studies in Section C (below), such can be achieved given the right conditions:

---consistent, concerned management by the administrative units involved, especially respect for "community" opinions and decisions;
---development of both structures/organizations and a process facilitative of optimally effective citizen participation;
---the existence of an issue which is of great enough concern that it will attract participation representative of the total "community" that will be affected by any decision made;

---a citizen participation strategy that aims at consensus of the parties involved;
---strategies that are appropriate to the situation at hand (e.g., geographical area of concern, amount of potential conflict, etc.); and
---"success" in citizen participation (i.e., decision-making that is acceptable to the "community of interest")

Next, it is worth raising the issue of what effect "crisis mentality" has on the nature and degree of citizen participation in environmental education and decision-making. The case studies, and common sense, show that the perception of a crisis has a profound effect on citizen participation. According to the perceived immediacy of an environmental crisis, the amount of and range of participation should vary greatly, and, if the crisis has a serious impact on a critical mass of people, the intensity of feelings and concern will be that much greater.

Of course, the latter situation, where there is much actual or potential conflict, poses a complementary question of how much consensus is truly possible, for example, when economic and environmental interests are in conflict. That would seem to depend (again as seen in the case studies) upon how much the interested parties are willing to compromise, what structures and processes for participation and consensus there are, and what organizational focus there is for resolving conflict.

In regard to the situation where there is no perceived crisis and where enhancement of existing air quality is the issue at stake, the participatory process--and its "actors"--can be altered somewhat. The absence of a crisis should mean less pressure and less conflict, and, also, less <u>immediate</u> lay participation. On one hand, it lessens the defensiveness of public (and private) officials, hopefully leading to calmer examination of issues and gradual development of consensus, on the other hand, it makes broad-based citizen participation harder to achieve.

In addition to structural concerns already expressed, a concommitant issue is whether the participatory, consensus-building, group processes exist which can be applied. Figure 1 (p. 15) shows categorized participation techniques collected in a Department of Transportation study.[1] Those techniques can be applied situationally to the tasks involved in specific instances where citizen participation is being facilitated. For examples, surveys and referenda can be utilized in attempting to reach the mass public at different stages of the educational and decision-making process; public hearings and neighborhood meetings can be used for more focused public information and opinion-sharing; and simulations, fishbowl planning, and other group techniques can be employed in small-group work sessions oriented to decision-making tasks.

Parallel with this issue is that of the development of alternative decision-making structures and processes that might be more effective than the traditional public hearing and formal decision-making structure that is utilized most of the time with public issues like air or water quality. The strategy choices in Figure 1 and the ad hoc bodies seen in some of the case studies would seem to indicate that there are functional alternatives which can be effective if managed properly.

The final citizen participation issue is how adaptable the participative process is beyond just PSD Set II considerations. The definition of community environmental education indicates the flexibility of the community-based approach to education. Taking its cue from the pattern

---

[1]Effective Citizen Participation in Transportation Planning Vol. 1, "Community Involvement Processes," Washington, D. C.: USDOT, Federal Highway Administration, 1976, p. 19.

FIGURE 1

PARTICIPATION TECHNIQUES CLASSIFIED BY FUNCTION

1. Information Dissemination

PUBLIC INFORMATION PROGRAMS

DROP-IN CENTERS

HOT LINES

MEETINGS - OPEN INFORMATION

2. Information Collection

SURVEYS

FOCUSED GROUP DISCUSSIONS

DELPHI

COMMUNITY-SPONSORED MEETINGS

PUBLIC HEARINGS

OMBUDSMAN

3. Initiative Planning

ADVOCACY PLANNING

CHARRETTES

COMMUNITY PLANNING CENTERS

COMPUTER-BASED TECHNIQUES

DESIGN-IN AND COLOR MAPPING

PLURAL PLANNING

TASK FORCE

WORKSHOPS

4. Reactive Planning

CITIZENS' ADVISORY COMMITTEES

CITIZEN REPRESENTATIVES ON POLICY-MAKING BOARDS

FISHBOWL PLANNING

INTERACTIVE CABLE TV-BASED PARTICIPATION

MEETINGS - NEIGHBORHOOD

NEIGHBORHOOD PLANNING COUNCILS

POLICY CAPTURING

VALUE ANALYSIS

5. Decisionmaking

ARBITRATIVE AND MEDIATIVE PLANNING

CITIZEN REFERENDUM

CITIZEN REVIEW BOARD

MEDIA-BASED ISSUE BALLOTING

6. Participation Process Support

CITIZEN EMPLOYMENT

CITIZEN HONORIA

CITIZEN TRAINING

COMMUNITY TECHNICAL ASSISTANCE

COORDINATOR OR COORDINATOR/CATALYST

GAME SIMULATION

GROUP DYNAMICS

of community development activities, this approach presupposes that the "content" of any formal or informal educational programming will be determined primarily by the needs and wants of the community involved. In the case of PSD Set II, the actual content of any educational efforts will be developed in the interaction of (a) EPA-based information on Set II pollutants and increment levels and (b) community perceptions of its air quality and related problems. It should also be noticeable that the community education process can be adapted to other environmental concerns. If one takes community needs and interests as a basic element in setting up educational programming, then one can tailor educational efforts to those needs and interests, respecting them as valid and gaining an entree into communities by that respect. The old adage about walking a mile in someone else's shoes has great long-term validity. If the administrative mechanisms can be set up to gain genuine, representative citizen participation that is relied upon and utilized significantly, then the credibility of the external agency (like EPA) will also increase, and its point of view will also be more readily understood by the community involved.

The organizational issues in marrying community environmental education with PSD Set II technical information and decision-making will be more fully discussed as they are concretized in Section D (below). However, they will be briefly surveyed at this point in the report.

The primary issue is how to achieve an organizational pattern which will bring together expertise in community and environmental education, the technical material necessary, and decision-making methods that are then applied to the geographical pattern most appropriate to both air pollution

problems and the communities of identification and decision-making which fit these problems. The most natural question to ask next is where the leverage points are in the existing systems of environmental education and decision-making, followed by how a balance of Federal, state, and local interests can be achieved. The final issue here would be how to do all those things with the most efficient and effective use of funds.

The "political" dimension to this study has two main focuses, one being the range of compromise between environmental standards and overall economic development, and the other being the potential redistribution of power involved in any serious notions of citizen participation in decision-making. The former appears resolvable through the use of existing EPA calculations on increment levels and methods for working out air quality trade-offs, plus an orientation to consensus-building in the structures and processes used for citizen participation. The second is a much trickier issue. Though there is great promise in the utilization of ad hoc participatory bodies, there has been a significant tendency on the part of elected officials to ignore the advice given them by such groups. Resolution of this issue depends, first, on the commitment of EPA to such an approach in its policies and procedures, and, secondly, on the parallel commitment of state, sub-state, and locally elected officials to share authority with citizen committees aiding in the decision-making process.

The fundamental issue among all those described is the first one. In order for major, vital citizen participation to be generated, there must be concrete, understandable evidence of hazards in this area of air quality. Once that is generated, then the other major issues can be

approached with more confidence. However, as the degree of perceived hazard drops, the degree of long-range term citizen participation should diminish correspondingly. The issue then becomes one of facilitating effective participation in a lower key.

C. Case Studies

Public decision-making: The four case studies surveyed in this section show a variety of geographical areas focused upon and an equal variety in methods used. The latter varied most particularly because of the different problems that existed in each case.

1) "Amendment #1"[2]: This instance of public decision-making is very much a traditional political case. Amendment #1 is a constitutional amendment passed in Missouri that levied a 1/8% sales tax for wildlife and forestry conservation which included non-game animals. The seven-year effort to pass the amendment grew out of a 1969 alliance of the state's Conservation Department and the state's Conservation Federation, out of which emerged the Design For Conservation, a blueprint for overall wildlife management and overall outdoor recreation management. The Conservation Federation organized a Citizens Committee for Conservation, which spearheaded the drive to provide funding for that plan. A plan to tax soft drinks for that purpose having been quashed by legal technicalities, the Committee first had to fight, and win, legal battles to get a petition drive organized for the 1/8% tax (in 1973 and 1974), and then it succeeded in getting 200,000

---

[2]Charles Davidson, "Amendment #1--a conservation victory," in Clay Schoenfeld and John Disinger, Environmental Education in Action III: Case Studies of Public Involvement in Environmental Policy, Columbus, Ohio: ERIC/SMEAC Clearinghouse, December 1978, pp. 36-42.

signatures in 1975 to get the proposed amendment put on the 1976 ballot. The ultimate victory turned out to be a narrow one, with a 50.8%-49.2% margin.

There were multiple strategies utilized in that effort. The formation of the Citizens Committee and the back-up provided by the Conservation Federation meant a coordinated leadership structure, with the use of a decision-making steering committee and some dedicated individual leadership. In addition, much legal help was used to draw up petitions and to surmount the legal hurdles involved. The effort also took a good deal of financial support from the network of conservationists accessible to the Conservation Federation, plus massive volunteer support for the petition drive. In the area of publicity, a wide range of public endorsements were garnered for the whole effort, and the Citizens Committee developed a media campaign geared to passing the amendment. The complexities of such a large-scale effort are obvious.

2) "Environmental Education Program for Community Leaders in Lee County, Mississippi"[3]: This effort was developed by the Land Use Center of the Mississippi Cooperative Extension Service at Mississippi State University, with financial assistance from the then U. S. Office of Education. The overall objectives for the program were to create an awareness of the Lee County Land Use Plan among both formal and informal county leaders and to emphasize the Plan's importance in the county, both to its communities and to its environment. More specifically, the program sought to assist community leaders (a) realize that their communities had environmental

---

[3]Bob T. Chapin, "Environmental education program for community leaders in Lee County," in Schoenfeld & Disinger, op. cit., pp. F-20.

problems; (b) acquire a knowledge of resources available at the local level to improve the environment; (c) gain an understanding of the relationship of population, economy, transportation, housing, and public services to land use and the environment; (d) gaining a knowledge of the problem-solving process as a part of effective community environmental programs; and (e) participate in land use planning workshops to gain a better understanding of their role in environmental education.

There were two categories of educational methods used in this program. The first was the production of educational materials: informational printed material (which was mailed out to those requesting it), television and radio spots, a short movie called "Consider the Land," newspaper articles, and a sound-slide show on "The Use of Land in Lee County." In addition to that amount of material, six workshops in various communities in the county were held for community leaders.

There were a variety of results to this program: a county land use resolution was supported by an overwhelming majority of workshop participants; policy suggestions were forwarded to county and regional authorities; 499 environmental improvement projects were undertaken in the county; and the Council of Governments for that area, boards of supervisors, and municipal officials all supported the continuation of the program.

Figure 2 shows the great number of organizations involved in different stages of this program. It also illustrates the complexity of even a county-level effort to deal with environmental issues. In addition, it shows how public decision-making can be spread out so that a wide range of citizen participation can be facilitated.

FIGURE 2

LAND USE INFORMATION FLOW AND COOPERATING AGENCIES*
NECESSARY FOR GENERATING NATURAL RESOURCE USE INVENTORIES

Basic Resource Data

(Compiled by Research Agencies):
U.S. Geological Survey
Board of Water Commissioners of the State of Mississippi
Agriculture Experiment Stations
Soil Conservation Service
University Research Foundations
Mississippi R & D Center

Resource Needs Inventories

(Compiled by Planning Agencies):
Cooperative Extension (Land Use Center and Community Development)
Regional Planning Agencies
Office of State Planning
Council of Governments
Community Development Foundation

Interpretive Data

(Compiled by Service Agencies):
Air and Water Pollution Control Commission
Cooperative Extension Service (Specialists)
Land Use Center
County Agents
Soil Conservation Service
Forestry Commission
ASCS
FmHA
EPA

Priorities of Needs

(Compiled by Social and Planning Agencies):
Cooperative Extension (Land Use Center and Community Development)
Regional Planning Agencies
Community Officials
Lee County Board of Supervisors

Compatabilities of Needs and Resources
(Compiled by Service and Planning Agencies):

Cooperative Extension (Specialists, Land Use Center, Pollution, and Community Development)
Air and Water Pollution Control Commission
Soil Conservation Service
State Health Department
Mississippi R & D Center
Regional Planning Agencies

Potential Natural Resource Use Inventory
Maintained by the Air and Water Pollution Control Commission
Promulgated to the Appropriate Audiences by Cooperative Extension Service

Decision Makers

*There are many other agencies and organizations involved at various times and locations. The agencies listed are those most consistently involved in Mississippi.

3) "Governor's Commission on Arizona Environment"[4]: This Commission has been in operation since the White House Conference on Natural Beauty in 1965. Composed entirely of volunteers, it meets in diverse locations throughout the state to tackle environmental problems, and all of Arizona's environmental legislation since the inception of the Commission can be directly or indirectly attributed to its work. In addition to its aid in the legislative decision-making process, it has developed public information as diverse as the "Arizona Will" anti-litter cartoon advertisements, environmental awards, a Solid Waste Management Van (in coordination with the League of Women Voters), public forums, an environmental education teacher's guide, and informational workshops.

The composition of the Commission is its main asset. Because it is a non-partisan group representing all sides of environmental issues, it has access to the Arizona governor and consequent political leverage. The representatives are appointed by the governor after an organization requests membership and a Commission screening committee approves that membership. The Commission does work strongly toward having high-level representation from constituent members, to achieve as much clout as possible. So this is another example of the functionality of multi-faceted representation and the utility of having influential membership when the task at hand is statewide environmental education and decision-making.

4) "Citizen participation and consensus-building in land use planning: a case study"[5]: In 1975 the Alewife Task Force, a citizens advisory group

---

[4]Roy P. Drachman, "Governor's Commission on Arizona Environment," in Schoenfeld & Disinger, op. cit., pp. 51-56.

[5]Lawrence Susskind, "Citizen participation & consensus-building in land-use planning," mimeo, personal copy.

with representation of all agencies and interest groups with a stake involved, was commissioned to help plan an extension of the Boston subway system northwest of the city. That representation consisted of fifty different groups: neighborhood associations, business groups, environmental action groups, and agencies with a multitude of overlapping jurisdictions. After a year and a half of intensive work, the groups decided that it wanted to be more than a sounding board and proceeded to convert itself into a forum for negotiating a settlement of the conflicts that one would expect from boiling down fifteen original alternatives to one which the fifty groups could accept.

The author of the case study makes this observation on the experience he had in that process: "...land use disputes sparked by public investments or private actions can best be resolved through a structured bargaining or mediating process separate from, but not completely independent of, representative government." (p. 6). In this case, the bargaining/mediating approach was successful in both gaining Task Force consensus and overcoming the resistance of elected officials and local bureaucracy to hammer out a plan that was to be implemented.

That success was not necessarily without its costs. There were many issues to, first, explore and then resolve; the use of informal group management took time for group members to understand; there were expected "turf" problems; the problem area did not match jurisdictional lines; and agency consultants were reluctant to go beyond informational work. Even with the use of many participatory techniques--both with the communities and the Task Force itself--the ultimate compromise grew mostly out of frustration with the differences among Task Force members. The break came when the group decided to look on the subway extension as an

opportunity to create a positive environment rather than as a problem to deal with.

The author cites two key "lessons" emanating from this case. First, participatory forms must move toward a strategy of consensus-building. Second, the issue of representativeness is not just important for gathering a wide range of participants; those participants must then feel representative of the group that is providing advice or is making decisions.

Dissemination of technical information: The four case studies in this section show a variation in the ways information can be disseminated and in the types of organizations that can provide environmental information and education.

1) "The Passaic River Coalition vs. The Army Corps of Engineers"[6]: The history of this educational advocacy program has its roots in the authority the Corps of Engineers was given in 1936 to control flooding in the Passaic River Valley of New Jersey. As a result of one of the Corps' control plans, in 1968 the Passaic River Coalition was formed to oppose that plan and, over the next eight years, developed and employed a broad spectrum of educational methods to bolster its position.

The initial educational effort was to produce the report The Passaic River and Its Role and the slide show "The Crisis of Our Flood Plains." The former was distributed primarily to public officials, and the latter was a prominent feature of the 125 programs put on by the PRC in 1972 leading up to a public hearing on the flood control plan. As the dispute escalated into the mid-1970's, the PRC started a "library" of information,

---

[6]Ella F. Fillippone & Betty A. Little, "Passaic Rover Coalition vs. Army Corps of Engineers," in Schoenfeld & Disinger, op. cit., pp. 57-62.

organized an advisory board consisting of many people with great expertise, and conducted opinion polls in that area to gauge public feelings and support.

When the New Jersey governor approved the Corps of Engineers latest plan, the PRC stepped up its public information campaign by producing an exhaustive list of objections to that plan (which it disseminated widely) and by conducting continuous public hearings between 1974 and 1976. The ultimate result of this effort was a massive show of support by public officials at a Congressional hearing and a subsequent order for the Corps to completely re-study the Passaic River Valley for alternative flood control methods.

As with the effort to pass Amendment #1 in Missouri, the Passaic River Coalition had to wage a complex and highly political campaign to gain a more reasonable approach to flood control in their locality. This effort would also seem to indicate that a perceived crisis plus years of being left out of decisions can produce some quite vigorous environmental education and action programs.

2) "Community involvement in air quality problems in Steubenville, Ohio, and Weirton, West Virginia"[7]: This is a somewhat less successful example of the dissemination of technical information in an area with one of the worst air pollution problems in the country. In this situation the atmospheric sciences program at Ohio State University (with auxiliary help from Ohio Wesleyan University and private consulting firms) tried to link university-based expertise and knowledge with community involvement to

---

[7]Jo Ellen Force & Thomas A. Seliga, "Community involvement in air quality problems in Steubenville, Ohio, & Weirton, West Virginia," in Schoenfeld & Disinger, op. cit., pp. 63-69.

begin to solve community environmental problems. The focal point of this effort was a set of conferences and workshops, for which contacts were made with the range of actors vital to such an approach: the mayors and other local officials, EPA representatives, steel company representatives, and health professionals.

This program was deemed to be a limited success. The problems encountered indicate the nature of the limits of this approach:

a) It was difficult to get industry representatives to participate in an informative rather than defensive manner;
b) There were great problems of staff continuity with university personnel limited by time and other constraints;
c) Funding was not available to provide a sound data base on the actual and potential atmospheric conditions and the consequent health problems;
d) There was not a "critical mass" of local citizens to provide the momentum for significant progress on local problems; and
e) It was realized that the timing of this effort could have better coincided with periods of poorest air quality, in autumn and late summer, when public interest would have been at its highest.

3) "Citizen Involvement in Wisconsin's Pilot Energy Extension Program"[8]: This project was based in the Wisconsin Energy Extension Service (WEES), a cooperative mixture of the structure of the University of Wisconsin continuing education divisions statewide and the resources and delivery systems of the Wisconsin Cooperative Extension Service. A wide variety of content was to be used here. They included statewide energy audit training, energy assistance for low and moderate income residents, demonstrations of energy conservation in public buildings, energy conservation in recreation/tourist businesses, energy conservation

---

[8]James W. Cooch, "Citizen Involvement in Wisconsin's Pilot Energy Extension Program," in Schoenfeld & Disinger, op. cit., pp. 79-83.

in agricultural transportation and food distribution, safety and efficiency in wood heating, an energy information center, and review of teaching and reference materials relating to energy conservation.

The initial educational efforts were guided by the State Energy Conservation Advisory Committee, with representatives of public interest groups, local governments, utilities, cooperatives, industry, and the state legislature. In addition, an Energy Education Task Force was charged with the responsibility of developing a long-range energy education plan. The latter group was made up of representatives from the State Vocational, Technical, and Adult Education Board, the Department of Public Instruction, University of Wisconsin-Extension, and the Office of State Planning and Energy.

This case points out the existence of one kind of education system potentially useful for PSD Set II information and the need for a cooperative approach to statewide programming.

4) "The League of Women Voters in Green Bay"[9]: This case demonstrates both the nationwide network of the League of Women Voters and its potential as a local resource for environmental education. As a national organization, the League has been active for many years in environmental issues. The general pattern of operation for the group is to adopt "Study Items" at the national, state, and local levels and then to develop educational materials and projects geared to each Item. For example, in 1970 solid waste management was chosen as a Study Item at the LWV national convention. A national guide was produced at the national level (along with other

---

[9]Cora Stencil, "The League of Women Voters in Green Bay," in Schoenfeld & Disinger, op. cit., pp. 179-182.

educational materials), while, at the local level, consensus was sought, meetings were held, and projects were developed.

The Leagues in the Fox River Valley of Wisconsin (which includes Green Bay) are an example of such work at the local level. Their first effort was to recommend land use/sewage treatment planning in that area and to testify at public hearings on that issue, activity which aided the formation of the area's water quality planning agency. Three League members were subsequently appointed to the agency's citizens advisory committee.

The next step was for those Leagues to get a small environmental education grant through the 208 Water Quality Program, which meant that the Leagues worked with the water quality planning agency and regional planning bodies to gather information and put together educational materials for that area. As with other cases presented in this study, many educational methods were used: a slide show on point and non-point pollution was developed, 10,000 brochures on the 208 Program, and thirty-three presentations (including three state conventions, radio/t.v. talk shows, evening meetings in waterfront parks, a traveling display, and workshops for high school students). The advantages of a community-based organization can be seen in this case, as long as it has adequate financial and informational backup.

Resistance of industrial/highway development: The final three cases do not illustrate outright success in defeating industrial or highway development, but, rather, indicate both methods of opposition and of reconciling diverse points of view on those matters. One emphasis in this study is on gearing citizen participation to resolve air quality concerns, as well as to oppose development that would cause significant deterioration in air quality.

1) "Save Our Mountains/Save Our Cumberland Mountains"[10]: These two organizations are engaged in the same kind of activity, to resist the depredation of strip mining in Appalachia. Save Our Mountains has worked in southern West Virginia to fight local strip miners from destroying the land in that area. The primary method of resistance has been to develop a handbook that deals with strip mining, covering current laws, taxes, and ways to fight strip mining.

Save Our Cumberland Mountains operates in eastern Tennessee, with the same purpose as the organization above. SOCM has used a variety of methods to fight mining in its area. It has promoted participatory public hearings, checked county tax records to see if coal companies are legally raising rates, worked with the state legislature for more progressive laws, used a film called "The Stripping of Appalachia," and gone to court seeking equal county services for mountain residents.

Admittedly, the victories for these two groups have been quite limited; however, they do illustrate the possibility of linking with existing community-based groups to develop environmental action.

2) "Multi-model corridor study"[11]: This case involves the use of citizen participation in planning transportation alternatives in a metropolitan area. The problem at hand was how to provide improved transportation systems between city and suburbs, with the primary alternative, at the beginning, being the extension of an interstate highway from the city beltline through the city.

---

[10] Mountain Life and Work, undated, from files of the Durham County (N.C.) Community Education Program.

[11] Effective Citizen Participation in Transportation Planning, op. cit., pp. 70-86.

The state's Secretary of Transportation having mandated representative and continuous citizen participation in the planning process, a large, advisory steering committee was formed to work on the project. Over sixty people were on the committee, elected officials, agency representatives, and private citizens both independent and representative of interest groups. To facilitate committee work, the project staff conducted a transportation survey of the affected area, conducted well advertised public hearings to gauge community feelings, and opened a "drop-in" office in the project area.

The internal committee planning process, spread out over a year, split into two phases. The first produced 14 alternatives (not including the highway extension, which was dropped early on), out of which the Department of Transportation picked five Phase II alternatives for consideration, all of which leaned toward mixed mode options.

The result of this approach was the choice of a mixed mode approach deemed satisfactory by all those involved. The main trade-off here seems to be that the large expense for the projects (over $250,000) produced a result that included resolution of issues that had caused great conflict elsewhere and recommendations for an alternative that was more readily implementable because of the consensus which had been developed

3) "Citizen Advisory Committee for In-town Sectional Planning"[12]: This case involves overall planning for development of a commercial area in a large city, an activity in which both highways/transportation and industrial growth were issues.

As in the previous case, the problem situation grew out of a formal planning effort (the City Planning Commission, in this case) in which

---

[12]Ibid., pp. 92-100.

significant opposition to initial ideas (i.e., rezoning for more commercial growth) led to the formation of participatory groups. Here there were two, an interagency task force and a citizens advisory committee. The former was the focal group, made up of representatives from agencies whose support and approval were required, which was responsible for developing the growth plan and for getting the views of the affected area via the citizens advisory committee.

The primary process by which the two groups performed their task was a regular bi-weekly joint meeting to review work and to work on a specific aspect of the planning. Over the time it took to do the work, those meetings involved an interactive exchange of alternatives between the two groups. As part of its work, the advisory committee conducted a survey of the study area to get factual evidence of common knowledge of that area's opinions.

The result of this effort was to develop a revised sectional plan that called for a combination of commercial and residential development. The success of the effort can be measured by the approval the plan got from both the City Planning Commission and the local neighborhood coalition. The positive result was deemed to be attributable to both the genuine participatory structure and the aim at compromise by participants.

Summary: These cases would appear to show that citizen participation is possible and effective--given the right conditions, which can be reasonably developed--and that there are resources available to disseminate information on technical matters such as air quality. Factors supportive of both elements include adequate funding for programs, a perceived "crisis" of some sort, the use of ad hoc advisory and decision-making groups that are representative of the geographical area involved, active coordination of groups in any such projects, and structure and processes facilitative of consensus wherever possible.

D. Candidate Organizations and Relevant Actors

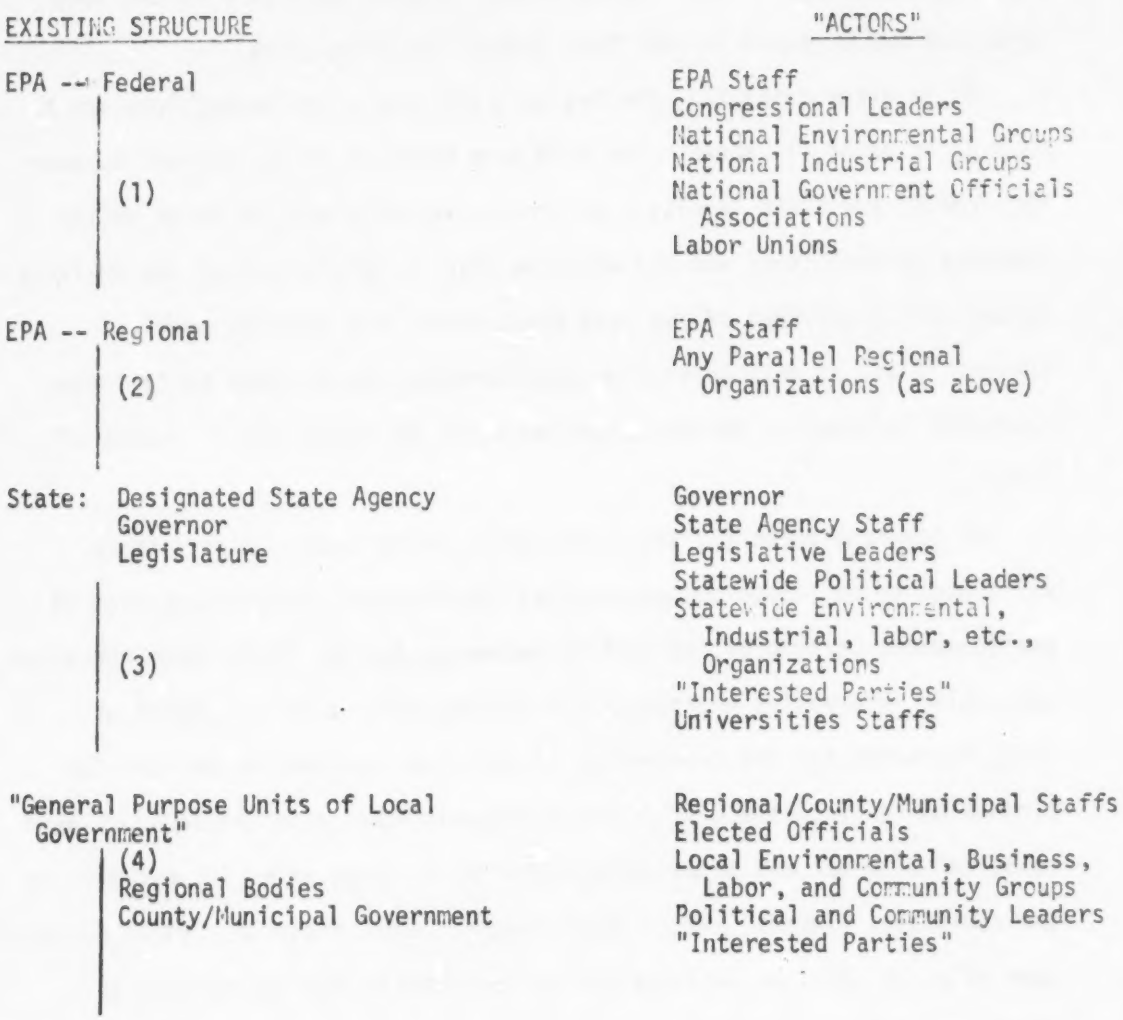
The most influential factor in developing a set of alternative organizational models in this study has been the organizational issue defined earlier (p. 4) of how to achieve the optimal combination of resources necessary to participatory approaches to education and decision-making within the framework of PSD Set II. The choices described below reflect consideration of that issue, as well as of the rest of the issues defined previously, and consideration of the existing system for decision-making in relation to air quality. Figure 3 (p. 33) shows that system and its "Actors," plus what are sensed in this study to be leverage points for facilitating desired citizen participation in decision-making and community environmental education.

The actors for each level are listed next to that level. The formal actors are the staff members and elected officials at each level, and the informal actors influencing the decision-making and educational processes by their interaction with formal actors are those who are considered neither to be staff or elected people. These actors are considered to operate in all the models proposed.

Numbers one (1) to four (4) in Figure 3 designate the leverage points within the existing system. The system is assumed to be functioning adequately, given the resources available, and the following discussion of those leverage points will point to both resources and processes necessary at those points to make possible effective citizen participation and educational strategies.

At leverage point (1) the Federal EPA level, it is assumed that the PSD Set II technical information can be developed and there are in-house resources for managing citizen participation (from water quality work).

FIGURE 3


EXISTING STRUCTURE
"ACTORS"
EPA -- Federal
(1)
EPA Staff
Congressional Leaders
National Environmental Groups
National Industrial Groups
National Government Officials Associations
Labor Unions
EPA -- Regional
(2)
EPA Staff
Any Parallel Regional Organizations (as above)
State: Designated State Agency
Governor
Legislature
(3)
Governor
State Agency Staff
Legislative Leaders
Statewide Political Leaders
Statewide Environmental, Industrial, labor, etc., Organizations
"Interested Parties"
Universities Staffs
"General Purpose Units of Local Government"
(4)
Regional Bodies
County/Municipal Government
Regional/County/Municipal Staffs
Elected Officials
Local Environmental, Business, Labor, and Community Groups
Political and Community Leaders
"Interested Parties"

What would need to be developed would be funding for the proposed citizen participation in PSD Set II and, possibly, shared staffing with the lead organizations proposed in the three models appearing below.

At leverage point (2), the Regional EPA level, the assumptions can be made as at point (1) above. The need here would be for a "broker" between the Federal and state levels, a person who would be able to focus on the concerns of each level and who would be able to relate to both the delivery system of EPA and that of the lead organization for whatever model is chosen. Also, at this level some consideration can be given to tailoring technical information to the unique needs of the region and its cadre of states.

At leverage point (3) there are considerable needs. First, there would need to be "consciousness-raising" and concrete training related to participation strategies, as well as resources and skills in adult education and public information methods. In addition, this would be a point at which resources for the translation of technical information and for the production of state-specific information would need to be developed. These needs can also be said to be appropriate for leverage point (4) as well, at the sub-state, regional and/or local levels. Also, those two levels would need help, as well, in deciding how to integrate citizen participation forms into existing decision-making structures.

The assumption here is that the present focus of responsibility for air quality maintenance is focused at the state level, and that participatory and educational efforts would aim at enhancing that maintenance process. In addition to the needs stated in the paragraph above, a more specific need would be to develop models of organizational cooperation contributing to the air quality effort. As seen in the case studies, these would most

likely take the form of ad hoc advisory bodies made up of appropriate officials and interested citizen representatives.

Development of the models discussed immediately below takes into consideration the assets and needs of each of the levels and leverage points described to this point. The models chosen are meant to provide as many of those defined needs as possible.

MODEL #1: Cooperative Extension Service Focus

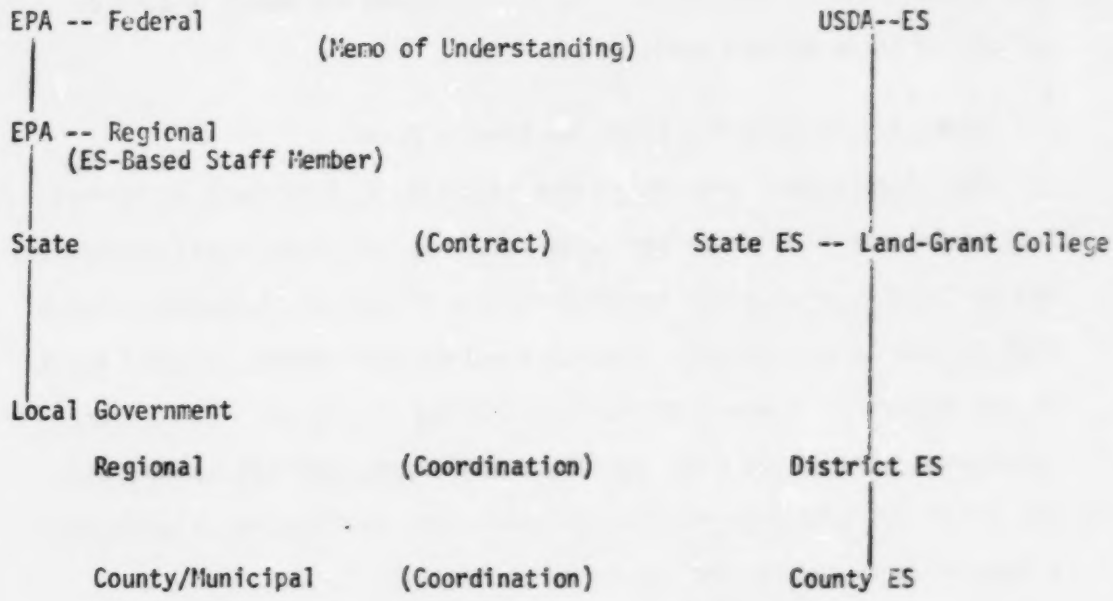
The Cooperative Extension Service of the U. S. Department of Agriculture would seem to have the best organizational structure, staff resources, and philosophic orientation for conducting a citizen participation program that relates to environmental education and decision-making in rural areas (which appears to be where the focus of PSD Set II will be). Of primary importance, too, is the existing cooperative arrangement between EPA and the Extension Service in relation to rural water quality, which means that a model already exists that can serve as the basis for developing a similar model for PSD Set II.

In relation to the major issues of this study raised earlier, the Extension Service has been involved in citizen participation for many years, having a great orientation to both volunteerism and the extensive use of citizen advisory committees. So, at least theoretically, the Extension Service has been testing and refining methods of citizen participation for a number of years and dealing with issues of compromise and consensus in community affairs.

As far as organizational issues for this study are concerned, the structure of the Extension Service in each state has fair compatibility with the needs of PSD Set II work. Figure 4 (p. 36) illustrates this model

FIGURE 4

Model #1: Cooperative Extension Service



with the parallel Extension Service organizational structure included. As can be seen, except for the fact that the sub-state district-level of Extension is not always contiguous with the EPA air quality structure and it has no Federal regional office, the rest of it is. That incompatibility is not necessarily a problem, since the district-levels would tend to encompass regions covered by Councils of Government and other regional planning bodies and an ES-based staff member could be placed in the EPA regional office. It would seem, then, that the organizational problem of matching communities-of-concern (in re: air quality problems) with organizational structure can be handled through the flexibility of the appropriate Extension level.

Also, since the Extension service is based in the land-grant colleges and universities, of all the organizations evaluated in this study, it has the best combination of expertise in community education, environmental education (at least from a land-use point of view), the translation and dissemination of technical information, and decision-making methods.

In terms of the "political" issues involved in this study, the Extension Service appears to be adequate to the tasks of integrating itself with traditional decision-making structures (especially at the county level) and of negotiating consensus between economic and environmental issues. The latter should be a process well ingrained in Extension operations since those kinds of choices are basic to agricultural practice.

There are some limits seen in the use of the Extension Service, starting with statements made immediately above. When it comes to a choice between what is economical in agricultural practice and what is environmentally sound in the long run, it is a question here as to where the Extension Service would stand. Though it has been involved generally in

environmental issues like land use, it has not necessarily been in the vanguard of environmental action in the last ten or fifteen years. This may be of some concern to EPA in states where agribusiness dominates. Also, the traditionalism of Extension, though it does place it securely within decision-making structures vital to what is proposed here for PSD Set II, may also inhibit participatory structures and processes that are novel and non-traditional. However, this model is still felt to be most appropriate as a unified approach to citizen participation and PSD Set II.

Figure 4 shows the structure of operation for the implementation of this model and draws much from the EPA/ES work done on rural water quality. At the Federal level, a Memo of Understanding between the agencies can be used as the basis of a cooperative working agreement; technical information can be developed between the two agencies, and staff can be exchanged to facilitate mutual understanding of each agency's operating philosophy and procedures. Since there is no Extension level comparable to the EPA regional level, that deficit could be handled by placing an Extension-based staff member in EPA regional offices to serve as the kind of "broker" described previously in this report (p. 34).

The most active coordination would occur on the state level. Here the state agency responsible for air quality could contract with the state Extension Service unit, based in the land-grant university or college, for technical assistance on participatory strategies, the development of public and technical information, and the services of an Extension specialist to serve as a liaison to sub-state activities. In addition, there would have to be great coordination of effort between the state agency and its Extension counterparts in planning and implementing both citizen participation in air quality decision-making and the complementary long-term educational effort.

The coordination of the next two levels of organization would mainly be determined by state-level coordinative work. District-level Extension specialists could work with appropriate sub-state regional planning bodies on the mechanics of citizen participation and planning at that level (as well as on coordination of public information work). Coordination of county Extension agents with local public officials in all aspects of this program would be, more or less, "business as usual," since those local-level ties are generally well developed already.

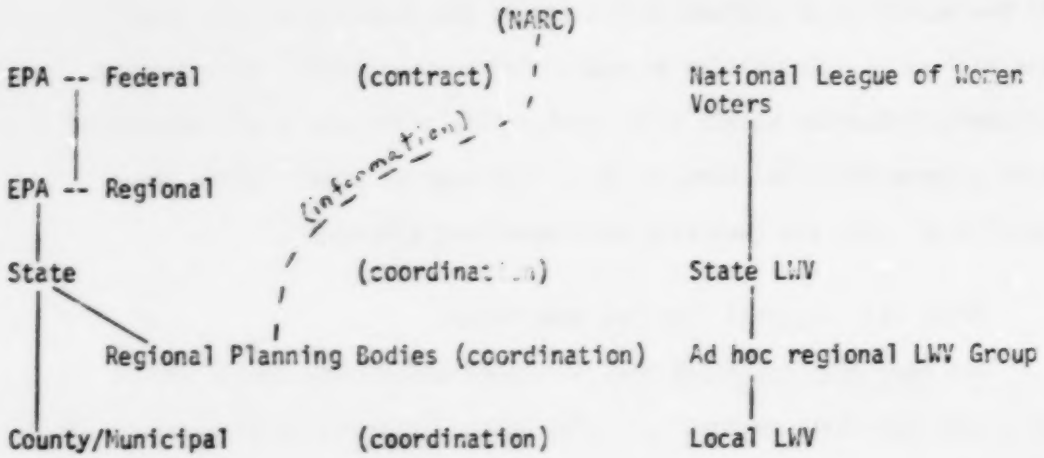
MODEL #2: Regional Planning Body Focus

The next best organizational structure appropriate to PSD Set II is utilizing sub-state regional planning bodies (Councils of Government, etc.). Figure 5 (p. 40) shows the structure of this model, which differs significantly from the prior model. The strength of using regional planning bodies lies in their general responsibility for regional development planning, which would include environmental and economic issues and trade-offs, and in their geographical placement, as containing logically related areas of their states which would capture many communities-of-concern for air quality problems. In addition, many of them have been involved in water quality and other participatory projects in the last ten years, and their familiarity with technical information and issues would be a great help.

The weakness of those regional planning bodies is also obvious from Figure 5. They lack significant system-wide educational capability, so the League of Women Voters is proposed to undertake the educational component of this model (as well as to provide technical assistance with the participatory process involved).

FIGURE 5

MODEL #2: Regional Planning Bodies



In operation this model would use most of the existing Federal-to-State system, but it would augment the capabilities of the regional planning bodies in implementing such an effort. Technical information and administrative guidance would still flow down those same channels. However, the multiple levels of the League of Women Voters could be utilized (with appropriate funding) to develop educational materials and citizen participation strategies and to coordinate the use of those strategies.

At the Federal level, EPA could contract with the LWV for the above-mentioned services. In addition, it could do the same with a group like the National Association of Regional Councils (NARC), on a smaller scale, to funnel information directly to the director and staffs of regional planning bodies (as is now being done in other areas of air quality), to sensitize them to the issues involved while simultaneously working through established channels on administrative matters.

At the state level, the designated state agency could then coordinate with the state LWV organization on participatory strategies and on the production and dissemination of both general and state-specific information. Meanwhile, at the regional level, the regional planning bodies would have responsibility for management of citizen participation activities and technical information, while coordinating with ad hoc regional LWV groups formed to aid in participatory activities and to disseminate public information.

Finally, at the local level LWV units would perform the same functions they have performed at other times, disseminating information and organizing local projects. That would also involve coordination with local authorities on any local participatory activities necessary.

MODEL #3: Community Education Network Focus

The third model concentrates on the network of community education and community schools in the public school systems throughout the country. Where the immediately prior model chose to focus upon regional planning bodies more for their technical expertise, this model focuses upon a nationwide educational delivery system. Community education provided through community schools means that education continues in public schools for adults in the late afternoon and evening, and those schools become a focus for programs serving community needs (e.g., afterschool care for school-age children).

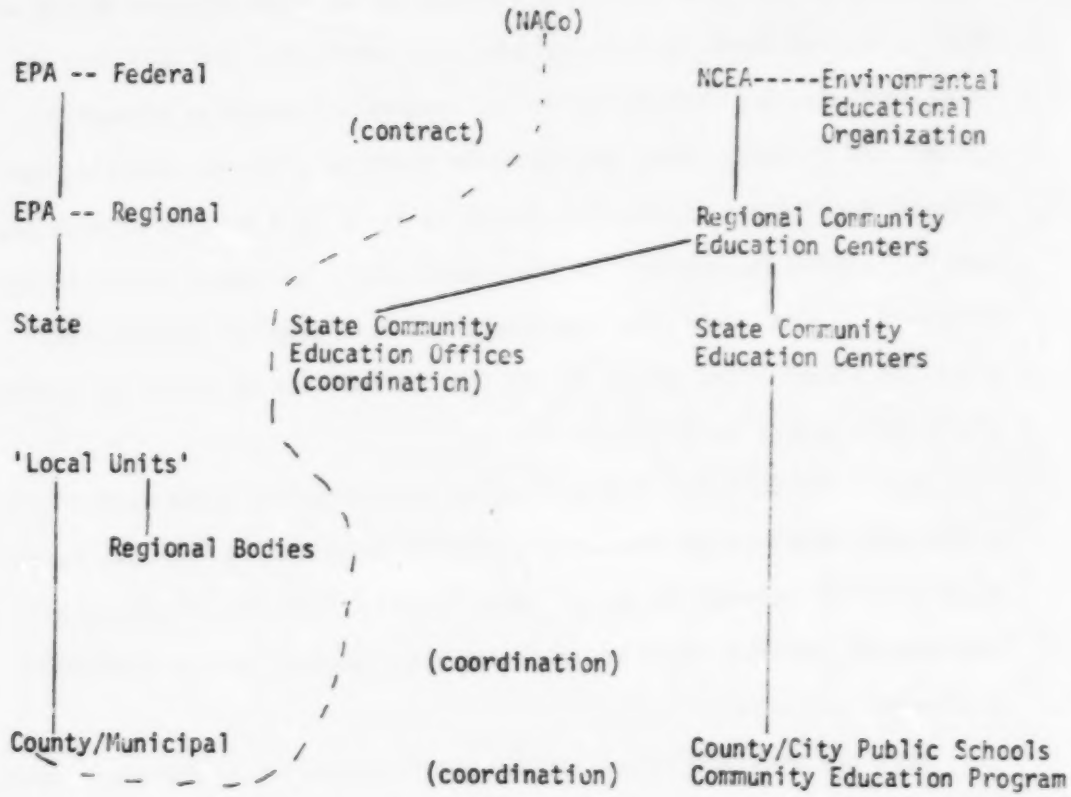
The obvious strength of this system is that it is community-based and has access to both children and adults. Being tied into the traditional community government system, most frequently via county commissioners, the public school system is, by and large, respected by most communities and has a connection to most of the people in its given area of responsibility. If PSD Set II turns out to be a program that needs, primarily, a local community approach, then the community education programs within the public school system are a natural option. Also, the emphasis on advisory groups and interagency cooperation in community schools in this country makes this system another resource for citizen participation.

The obvious weakness of the system is its relative weakness in technical and environmental matters. It would need funding for more skilled personnel and/or technical support from another educational organization. Also, going beyond the local municipal or county level will require regional organization formally or informally, that does not exist at present.

Figure 6 shows what this model would look like. The dotted lines at the top indicate potential links to auxiliary educational organizations

FIGURE 6

MODEL #3: Community Education Network



that could provide educational and informational materials based on PSD Set II data and issues, if staffing is not provided directly to the National Community Education Association (NCEA). The pattern here at the Federal level would be the same as in the previous model, with EPA contracting with NCEA to develop participation and education strategies and materials and to disseminate such information to its network of community education systems and centers. Some consideration might be given to utilizing the National Association of Counties (NACO) as it is used now, to provide air quality information directly to the county level, to county commissioners nationwide. Also, with the large number of environmental information/education organizations known to EPA, one of them can be chosen to provide educational materials to NCEA.

Continuing down this model, regional community education centers are at the next level of the community education network, and they can serve as conduits of information to the lower levels. However, coordination with the EPA regional level would be difficult because of the difference in coverage patterns.

There are many more possibilities for coordination at the state level. In all states there is either a state office for community schools/education or a university-based community education center; in most states there are both. So at this level there would be the same kind of coordination as in the other models. The designated state agency would have the ultimate responsibility for citizen participation and education, and the state-level community education center could give technical assistance on educational and participatory strategies, disseminate information to county and municipal levels, and coordinate participatory efforts through community schools. Where such centers do not exist, the state community schools/education office would take that role; where they do exist the state office would help coordinate between the center and the designated state agency.

E. Major Issues and Organizational Models: Discussion

The technical issues involved in this study of PSD Set II, though they are still not completely resolved (in the lack of concrete data at present), do seem manageable within each of the models presented. A great deal of environmental information has been produced and "translated" for lay audiences in the past twenty years, so that aspect of PSD Set II should not be a major problem. In addition, there is some possibility that this aspect of air quality standards can be linked with prior air quality concerns and information produced and disseminated through many of the organizations in this study's models. However, that information first must be produced in its technical state and with obvious health consequences that can be understood relatively well by the public.

In regard to the three models proposed in the section before this one, the Extension Service has the longest history of taking research-based data and translating it into forms suitable for public consumption. Regional planning bodies have had some experience with the technical end of such work, and the League of Women Voters with the educational end, but not that combination of both technical research and educational activity. As mentioned, the National Community Education Association and the network of community schools would, by and large, be breaking new ground with this kind of endeavor.

In regard to citizen participation, the ingredients all appear to be available to be harnessed into any one (or more) of the models. Experienced organizational structures exist at the necessary levels, and the techniques and strategies of citizen participation are pretty well defined. Also, the case studies show that citizen participation can work, given the following conditions: consistent ethical management at all levels;

organization of structures and processes for consensus at all advisory or decision points; a skilled, concerned staff at all levels; a willingness to consider compromises at the community level; the operation of a skilled facilitator with all working groups; and "success."

There are obstacles, though, to engineering consistent, effective citizen participation (fueled by one-term environmental education). From an administrative point of view, there is a heavy financial and time investment in any citizen participation effort that is truly meant to be effective. Group decision-making can be extremely inefficient. It takes time and energy to get groups organized and functioning effectively, time and energy that many administrators see as wasted. Because of that attitude and a point of view which sees no value in sharing decision-making authority, there can also be much administrative sabotaging of citizen participation efforts. Also, there is an opportunity for open conflicts to erupt when opposing points of view are brought together.

However, citizen participation is a long-run investment. It is certainly not a one-shot effort. If properly managed, it can bring decision-making and administrative resources into public programs which can use such long-term assistance.

One striking virtue of the models proposed and the larger philosophy of community-based education is their flexibility. In the process of providing a "community" with information about its air quality, the organization doing that work (e.g., the Extension Service) can utilize perception of a crisis to do some immediate education and/or decision-making if that is the case. More likely, though, it will employ a strategy of long-term education to sensitize a "community" to its air quality situation, building up to the higher level decision-making phase.

All of the organizations in the models proposed have had experience with that kind of flexible operation (as have many other organizations nationwide). However, because of the formal, professional, day-to-day operation of its system and the long-term emphasis of its educational approach, the Extension Service can be seen to have an edge of the League of Women Voters/regional planning body approach, and both would have advantages over the community education network approach.

It is difficult to discuss fully the interaction of organizational issues with proposed models without information on the exact geographical areas of concern for PSD Set II. However, the models chosen were selected because of their flexibility and because of their varied geographical focuses. Also, another criterion for choice is the advantages of using existing resources, organizations, and systems.

With those criteria for choices, it is easy to see why the Extension Service model was given the highest rating. Its structure most readily adapts to the existing air quality control system, it has the largest staff resources of the models proposed (unless one includes the entire public school system with the community education network), and it has the most experience in all the fields essential to this kind of project.

Yet it is also necessary to note that EPA has the option to use a combination of these models. Each of them has its own weaknesses, and the use of more than one model could alleviate the weakness of one of them. So, depending on the nature and scope of the PSD Set II air quality problems, the geographical areas of concern, EPA may well want to pick a combination that most suits its chosen objectives for PSD Set II, especially in regard to the need for multiple strategies of long-range education.

The "political" issues involved in the approach detailed in this study have no easy answers. Both the "economics vs. the environment" issue and the issue of expanding traditional decision-making structures and processes are quite difficult to unravel, and this study does not pretend to solve them. However, the managerial philosophy and procedures of EPA would seem to be quite important. If the Agency takes a consistent and reasonable position in its implementation of such a new approach to air quality, the chances of success are much better. What that would mean in practice is a tolerance for decentralization and development of trade-off mechanisms (similar to those already in use).

The relative advantage of the Extension Service in regard to the "politics" of PSD Set II is that it is a traditional organization and well established in the "System," while also having extensive experience with citizen participation. Along with the regional planning bodies, it has access to the existing decision-making structure.

F. Work Plan for Training

It is difficult within the framework of this study to develop a training work plan for multiple models from which EPA will make a choice to go with one (or more) of those models, or will choose another strategy altogether. So this work plan will focus on the basic orientation for training for any of the models and on the basic content deemed fitting at each level to implement the citizen participation cum environmental education approach for PSD Set II.

Essentially, the content for Federal, Regional, and State training (with each state training its own lower levels) would remain the same at each level. However, the emphasis at each level would be on strategies appropriate to that level of operation and on the down-to-earth coordinative

work necessary to make a program like this succeed. For example, it would be necessary to go beyond just talking about different coordination strategies in a training conference; participants representing the agencies and organizations concerned would have to address and plan to remove obstacles to coordination as well.

At Federal, regional, and state levels the "agenda" would essentially look the same: (1) an orientation to PSD Set II and its issues and administration + (2) strategies of citizen participation and community education + (3) coordination strategies and planning. The training at these levels would be both horizontal and vertical. At each level the parallel organizations would be trained together (across that level); and each lead organization would be responsible for training its lower levels (e.g., the National LWV would train its state organization, and each state organization would train its local branches).

With this basic model of training, once EPA decides on its options for PSD Set II, a more detailed and sophisticated training plan can be devised.

Some brief mention can be made here about the nature of staffing required within the states affected by PSD Set II. Under the assumption that a long-term, low-key effort is required here, with maximum utilization of existing resources, a tentative recommendation is put forth that one air quality technical expert and one educational expert be funded at the state level, to consult with community officials and groups and to provide educational materials and advice. Those two people should have the combination of education and experience appropriate to those tasks (i.e., doctorates plus experience, or masters degrees plus greater experience).

BIBLIOGRAPHY

1. CKT Associates, Public Participation Evaluation Handbook, Washington, D.C.: U.S. Environmental Protection Agency, Water Planning Division (WH-554), December, 1979

2. Craig B. David & Arthur Sacks, editors, Current Issues in Environmental Education--IV, Columbus, Ohio: ERIC/SMEAC, December, 1978

3. John F. Disinger, Alliance Affiliate Activities: Non-Governmental Organizations in Environmental Education, Columbus, Ohio: ERIC/SMEAC, December, 1978

4. ---. & Mary Lynne Bowman, Environmental Education 1975: A State-by-State Report, Columbus, Ohio: ERIC/SMEAC, December, 1975

5. Effective Citizen Participation in Transportation Planning, Volume 1 ("Community Involvement Processes") & Volume 2 ("A Catalog of Techniques"), Washington, D.C.: USDOT, Federal Highway Administration, 1976

6. L. F. Horney, F. A. Koehler, F. J. Humenick, & L. F. Bliven, "North Carolina 208 Case Study," paper given at 1978 Winter Meeting of the American Society of Agricultural Engineers, New Orleans, LA, December, 1978

7. Involving Citizens in Metropolitan Region Transportation Planning, Washington, D.C.: USDOT, Federal Highway Administration, 1977

8. Robert Marlett, editor, Current Issues in Environmental Education--1975, Columbus, Ohio: ERIC/SMEAC, September, 1975

9. ---. Current Issues in Environmental Education--II, Columbus, Ohio: ERIC/SMEAC, September, 1976

10. Clay Schoenfeld & John Disinger, Environmental Education in Action--III: Case Studies of Public Involvement in Environmental Policy, ERIC/SMEAC, December, 1978

11. G. C. Morley, editor, Ask the People, Vancouver, B.C.: Agassiz Centre for Water Studies, February, 1973

12. Water Quality and Agriculture, Raleigh, N.C.: N.C. Soil & Water Conservation Commission, no date.

13. Katharine P. Warner, Public Participation in Water Resources Planning, Arlington, Va.: National Water Commission, Report NWC-SBS-71-013, July, 1971

United States
Environmental Protection
Agency

Office of Air, Noise, and Radiation
Office of Air Quality Planning and Standards
Research Triangle Park NC 27711

Official Business
Penalty for Private Use
$300

Publication No. EPA-450/2-80-079

Postage and
Fees Paid
Environmental
Protection
Agency
EPA 335

If your address is incorrect, please change on the above label, tear off, and return to the above address.
If you do not desire to continue receiving this technical report series, CHECK HERE ☐ ; tear off label, and return it to the above address.

B190